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Web-based specification and integration of legacy services

Ying Zou, Kostas Kontogiannis

November 2000 Proceedings of the 2000 conference of the Centre for Advanced Studies on Collaborative research

Publisher: IBM Press

Full text available: pdf(279.28 KB) Additional Information: full citation, abstract, references, index terms

With the explosive growth of the Internet, businesses of all sizes aim on applying networkwide solutions to their IT infrastructures, migrating their legacy business processes into web-based environments, and establishing their own on-line services. To facilitate process and service integration, a complete and information rich service description language, is essential for server processes to be specified and for client processes to be able to locate services that are available in Web-enabled re ...

<sup>2</sup> A client-aware dispatching algorithm for web clusters providing multiple services

Emiliano Casalicchio, Michele Colajanni

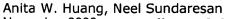
April 2001 Proceedings of the 10th international conference on World Wide Web

Publisher: ACM Press

Full text available: pdf(311.46 KB) Additional Information: full citation, references, citings, index terms

**Keywords**: clusters, dispatching algorithms, load balancing

A semantic transcoding system to adapt Web services for users with disabilities



November 2000 Proceedings of the fourth international ACM conference on Assistive technologies

Publisher: ACM Press

Full text available: pdf(154.74 KB) Additional Information: full citation, references, citings, index terms

**Keywords**: Web accessibility, Web intermediaries, XML transcoding, adaptability, adaptivity, disabled users

5/2/06

4 Engineering flexible World Wide Web services

Markus W. Schranz

February 1998 Proceedings of the 1998 ACM symposium on Applied Computing

Publisher: ACM Press

Full text available: The pdf(709.22 KB) Additional Information: full citation, references, citings, index terms

Keywords: WWW service engineering, Web service management, flexible Web services

5 A cost and performance model for Web service investment

Kai R. T. Larsen, Peter A. Bloniarz

February 2000 Communications of the ACM, Volume 43 Issue 2

**Publisher: ACM Press** 

Full text available: pdf(113.55 KB)

html(33.01 KB)

Additional Information: full citation, references, citings, index terms

<sup>6</sup> Focus on service departmental web site reorganization

Janice G. El-Bayoumi

November 1999 Proceedings of the 27th annual ACM SIGUCCS conference on User services: Mile high expectations

Publisher: ACM Press

Full text available: pdf(62.97 KB) Additional Information: full citation, references, index terms

**Keywords**: communication, customer, service, support, web

Web engineering device independent web services

Engin Kirda

July 2001 Proceedings of the 23rd International Conference on Software **Engineering** 

Publisher: IEEE Computer Society

Full text available: pdf(42.22 KB)

Publisher Site

Additional Information: full citation, abstract, references, index terms

Today's web services not only have to be flexible, but also have to be device independent to support mobile devices such as WAP and PDAs. Supporting multiple web formats (e.g., WML, HTML, etc.) is still an open challenge. Most sites have to provide a separate application for every format and reuse is not common. We are working on a methodology and a tool to support the web developer in building flexible, device independent web services.

8 Designing Dexter-based hypermedia services for the World Wide Web

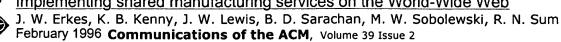
Kaj Grønbæk, Niels Olof Bouvin, Lennert Sloth
April 1997 Proceedings of the eighth ACM conference on Hypertext

**Publisher: ACM Press** 

Full text available: 🔁 pdf(1.08 MB) Additional Information: full citation, references, citings, index terms

Keywords: ActiveX, Dexter hypertext reference model, HTML, Java, JavaScript, OLE, World Wide Web, link objects, open hypermedia service

9 Implementing shared manufacturing services on the World-Wide Web



Publisher: ACM Press

Full text available: Ddf(404.10 KB) Additional Information: full citation, references, citings, index terms

10 Resource management for scalable disconnected access to Web services

Bharat Chandra, Mike Dahlin, Lei Gao, Amjad-Ali Khoja, Amol Nayate, Asim Razzaq, Anil Sewani

April 2001 Proceedings of the 10th international conference on World Wide Web

Publisher: ACM Press

Full text available: 📆 pdf(410.68 KB) Additional Information: full citation, references, citings, index terms

11 A proxy-based personal web archiving service

Herman Chung-Hwa Rao, Yih-Farn Chen, Ming-Feng Chen January 2001 ACM SIGOPS Operating Systems Review, Volume 35 Issue 1

Publisher: ACM Press

Full text available: pdf(2.12 MB) Additional Information: full citation, abstract, index terms

The Web contains so much information that it is almost beyond measure. How do users manage the useful information that they have seen while screening out the rest that doesn't interest them? Bookmarks help, but bookmarking a page doesn't guarantee that it will be available forever. Search engines are becoming more powerful, but they can't be customized based on the access history of individual users. This paper suggests that a better alternative to managing web information is through a middlewar ...

12 Application-layer anycasting: a server selection architecture and use in a replicated Web service

Ellen W. Zegura, Mostafa H. Ammar, Zongming Fei, Samrat Bhattacharjee August 2000 IEEE/ACM Transactions on Networking (TON), Volume 8 Issue 4

Publisher: IEEE Press

Full text available: 🔂 pdf(207.85 KB) Additional Information: full citation, references, citings, index terms

**Keywords**: anycasting, replication, server selection

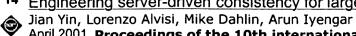
13 Vinci: a service-oriented architecture for rapid development of web applications

Rakesh Agrawal, Roberto J. Bayardo, Daniel Gruhl, Spiros Papadimitriou
April 2001 Proceedings of the 10th international conference on World Wide Web

**Publisher: ACM Press** 

Full text available: pdf(472.82 KB) Additional Information: full citation, references, citings, index terms

14 Engineering server-driven consistency for large scale dynamic Web services





Publisher: ACM Press

Full text available: pdf(291.44 KB) Additional Information: full citation, references, citings, index terms

**Keywords**: Web cache consistency, dynamic content, performance, scalability, volume lease

15 Multimedia Web services for mobile clients using quality aware transcoding

Surendar Chandra, Carla Schlatter Ellis, Amin Vahdat

August 1999 Proceedings of the 2nd ACM international workshop on Wireless mobile multimedia

Publisher: ACM Press

Full text available: pdf(1.18 MB) Additional Information: full citation, references, citings, index terms

16 Designing and implementing QoS management of the web

Maksim A. Aleksandrov, Vladislav S. Voinov

November 1998 Proceedings of the 1998 conference of the Centre for Advanced Studies on Collaborative research

Publisher: IBM Press

Additional Information: full citation, abstract, references, citings, index Full text available: pdf(188.73 KB)

This paper summarizes our efforts taken to challenge the issues of management systems that perform control over explicitly given expectations on service quality of the Web-based systems. Goals and principles of management, Quality of Service (QoS) metrics and controllable parameters, and architecture of the management system prototype are described and analyzed. Various management policies that can be applied within the Web Management System (WMS) are presented and discussed. Presented WMS proto ...

17 An admission control scheme for predictable server response time for web accesses

Xiangping Chen, Prasant Mohapatra, Huamin Chen

April 2001 Proceedings of the 10th international conference on World Wide Web

Publisher: ACM Press

Full text available: pdf(259.81 KB) Additional Information: full citation, references, citings, index terms

Keywords: Internet, PACERS, QoS, admission control, bounded response time, service differentiating Internet servers

18 Enabling full service surrogates using the portable channel representation

Micah Beck, Terry Moore, Leif Abrahamsson, Christophe Achoulantz, Patrick Johansson April 2001 Proceedings of the 10th international conference on World Wide Web

Publisher: ACM Press

Full text available: pdf(282.92 KB) Additional Information: full citation, references, index terms

**Keywords**: content distribution, dynamic content, mirroring, portability, replication,







surrogate, web server

19 Proceedings - only: Towards a real-world wide web

Tim Kindberg, John Barton

September 2000 Proceedings of the 9th workshop on ACM SIGOPS European workshop: beyond the PC: new challenges for the operating system

Publisher: ACM Press

Full text available: pdf(39.11 KB) Additional Information: full citation, abstract, references

As computer hardware shrinks and lightens and as communications becomes cheaper and more widely available, we have new opportunities for software systems to support nomadic users of ubiquitous or pervasive computing services [16, 24]. We are interested in systems that support interaction with the physical world wherever users happen to be. More and more things in the physical world, such as our cars and domestic appliances, are becoming "smart". Users need a convenient frame ...

20 Making computers disappear: appliance data services

Andrew C. Huang, Benjamin C. Ling, John Barton, Armando Fox

July 2001 Proceedings of the 7th annual international conference on Mobile computing and networking

Publisher: ACM Press

Full text available: pdf(691.57 KB)

Additional Information: full citation, abstract, references, citings, index terms

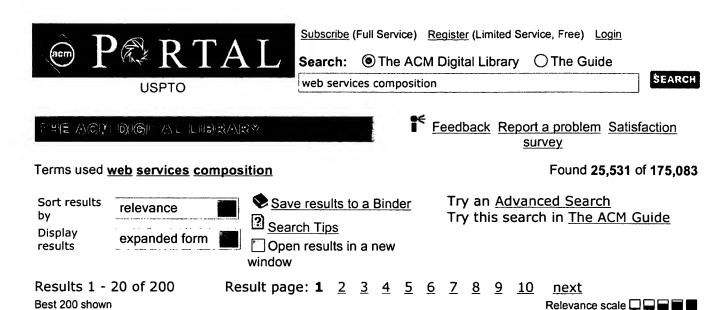
Digital appliances designed to simplify everyday tasks are readily available to end consumers. For example, mobile users can retrieve Web content using handheld devices since content retrieval is well-supported by infrastructure services such as transformational proxies. However, the same type of support is lacking for input-centric devices, those that create content and allow users to share content. This lack of infrastructural support makes input-centric devices hard to use and less useful. ...

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1 Web services: composition, integration and interoperability: Composition of coordinated web services



Stefan Tai, Rania Khalaf, Thomas Mikalsen

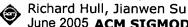
October 2004 Proceedings of the 5th ACM/IFIP/USENIX international conference on Middleware Middleware '04

Publisher: Springer-Verlag New York, Inc.

Full text available: pdf(255.57 KB) Additional Information: full citation, abstract, references, citings

The Web services architecture defines separate specifications for the composition and the coordination of Web services. BPEL is a language for creating service compositions in the form of business processes, whereas the WS-Coordination framework defines coordination protocols for distributed activities. In this paper, we investigate the combination of these two aspects to compose coordinated Web services. We argue for a policy-based approach to address this problem and introduce a new model and ...

2 <u>Database principles: Tools for composite web services: a short overview</u>



June 2005 ACM SIGMOD Record, Volume 34 Issue 2

Publisher: ACM Press

Full text available: pdf(449.55 KB) Additional Information: full citation, abstract, references, index terms

Web services technologies enable flexible and dynamic interoperation of autonomous software and information systems. A central challenge is the development of modeling techniques and tools for eanbling the (semi-)automatic composition and analysis of these services, taking into account their semantic and behavioral properties. This paper presents an overview of the fundamental assumptions and concepts underlying current work on service composition, and provides a sampling of key results in the a ...

Research session: correctness and performance: Automatic composition of transition-based semantic web services with messaging



Daniela Berardi, Diego Calvanese, Giuseppe De Giacomo, Richard Hull, Massimo Mecella August 2005 Proceedings of the 31st international conference on Very large data bases VLDB '05

Publisher: VLDB Endowment

Full text available: pdf(353.80 KB) Additional Information: full citation, abstract, references, index terms

In this paper we present Colombo, a framework in which web services are characterized in terms of (i) the atomic processes (i.e., operations) they can perform; (ii) their impact on

the "real world" (modeled as a relational database); (iii) their transition-based behavior; and (iv) the messages they can send and receive (from/to other web services and "human" clients). As such, Colombo combines key elements from the standards and research literature on (semantic) web s ...

4 Semantic web services: Augmenting semantic web service descriptions with



compositional specification

Monika Solanki, Antonio Cau, Hussein Zedan

May 2004 Proceedings of the 13th international conference on World Wide Web

Publisher: ACM Press

Full text available: pdf(244.34 KB) Additional Information: full citation, abstract, references, index terms

Current ontological specifications for semantically describing properties of Web services are limited to their static interface description. Normally for proving properties of service compositions, mapping input/output parameters and specifying the pre/post conditions are found to be sufficient. However these properties are assertions only on the initial and final states of the service respectively. They do not help in specifying/verifying ongoing behaviour of an individual service or a composed ...

Keywords: assumption, commitment, interval temporal logics, owl, owl-s, semantic web services, swrl, web services

5 Web technologies and applications (WTA): A Web services composition approach



based on software agents and context

Zakaria Maamar, Soraya Kouadri, Hamdi Yahyaoui March 2004 Proceedings of the 2004 ACM symposium on Applied computing

Publisher: ACM Press

Full text available: pdf(212.85 KB) Additional Information: full citation, abstract, references

We present an agent-based and context-oriented approach for Web services composition. A Web service is an accessible application that other applications and humans can discover and trigger to satisfy various needs. Due to the complexity of Web services composition, we consider two concepts to reduce this complexity: software agent and context. A software agent is an autonomous entity that acts on behalf of users, whereas context is any information relevant to characterize a situation. During com ...

**Keywords**: Web service, composition, context, security, software agent

6 Web engineering: Quality driven web services composition



Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index</u> Full text available: pdf(245.01 KB) terms

The process-driven composition of Web services is emerging as a promising approach to integrate business applications within and across organizational boundaries. In this approach, individual Web services are federated into composite Web services whose business logic is expressed as a process model. The tasks of this process model are essentially invocations to functionalities offered by the underlying component services. Usually, several component services are able to execute a given task, alth ...

**Keywords**: QoS, service composition, web services

7 Semantic Web Services: Simulation, verification and automated composition of web



<u>services</u>

Srini Narayanan, Sheila A. McIlraith

May 2002 Proceedings of the 11th international conference on World Wide Web

Publisher: ACM Press

Full text available: pdf(439.25 KB)

Additional Information: full citation, abstract, references, citings, index

Web services -- Web-accessible programs and devices - are a key application area for the Semantic Web. With the proliferation of Web services and the evolution towards the Semantic Web comes the opportunity to automate various Web services tasks. Our objective is to enable markup and automated reasoning technology to describe, simulate, compose, test, and verify compositions of Web services. We take as our starting point the DAML-S DAML+OIL ontology for describing the capabilities of Web service ...

**Keywords**: DAML, automated reasoning, distributed systems, ontologies, semantic web, web service composition, web services

<sup>8</sup> Web services: Ensuring required failure atomicity of composite Web services Sami Bhiri, Olivier Perrin, Claude Godart



May 2005 Proceedings of the 14th international conference on World Wide Web

Publisher: ACM Press

Full text available: pdf(1.18 MB)

Additional Information: full citation, abstract, references, index terms

The recent evolution of Internet, driven by the Web services technology, is extending the role of the Web from a support of information interaction to a middleware for B2B interactions. Indeed, the Web services technology allows enterprises to outsource parts of their business processes using Web services. And it also provides the opportunity to dynamically offer new value-added services through the composition of pre-existing Web services. In spite of the growing interest in Web services, current ...

Keywords: failure atomicity, reliable Web services compositions, transactional models

9 Web services: A service creation environment based on end to end composition of



Web services

Vikas Agarwal, Koustuv Dasgupta, Neeran Karnik, Arun Kumar, Ashish Kundu, Sumit Mittal, Biplay Srivastava

May 2005 Proceedings of the 14th international conference on World Wide Web Publisher: ACM Press

Full text available: pdf(346.42 KB) Additional Information: full citation, abstract, references, index terms

The demand for quickly delivering new applications is increasingly becoming a business imperative today. Application development is often done in an ad hoc manner, without standard frameworks or libraries, thus resulting in poor reuse of software assets. Web services have received much interest in industry due to their potential in facilitating seamless business-to-business or enterprise application integration. A web services composition tool can help automate the process, from creating busines ...

**Keywords**: Web services composition, planning, semantic Web

Service composition: Hybrid web service composition: business processes meet business rules





Anis Charfi, Mira Mezini

## November 2004 Proceedings of the 2nd international conference on Service oriented computing

Publisher: ACM Press

Full text available: pdf(262.58 KB) Additional Information: full citation, abstract, references, index terms

Over the last few years several process-based web service composition languages have erged, such as BPEL4WS and BPML. These languages define the composition on the basis of a process that specifies the control and data flow among the services to be composed. In this approach, the whole business logic underlying the composition including business policies and constraints is coded as a monolithic block. As a result, business rules are hard to change without affecting the core composition logic. ...

Keywords: aspect-oriented programming, business rules, modularity, web service composition

11 Tutorial 1: Tools for design of composite Web services



Richard Hull, Jianwen Su

June 2004 Proceedings of the 2004 ACM SIGMOD international conference on Management of data

**Publisher:** ACM Press

Full text available: pdf(121.21 KB) Additional Information: full citation, references

12 Business processes and conversations: Decentralized orchestration of composite





web services

Girish B. Chafle, Sunil Chandra, Vijay Mann, Mangala Gowri Nanda

May 2004 Proceedings of the 13th international World Wide Web conference on Alternate track papers & posters

Publisher: ACM Press

Full text available: 📆 pdf(166.96 KB) Additional Information: full citation, abstract, references, index terms

Web services make information and software available programmatically via the Internet and may be used as building blocks for applications. A composite web service is one that is built using multiple component web services and is typically specified using a language such as BPEL4WS or WSIPL. Once its specification has been developed, the composite service may be orchestrated either in a centralized or in a decentralized fashion. Decentralized orchestration offers perf ...

Keywords: BPEL4WS, code partitioning, composite web services, decentralized orchestration

13 Web service composition transaction management

Benchaphon Limthanmaphon, Yanchun Zhang

January 2004 Proceedings of the fifteenth conference on Australasian database -Volume 27 CRPIT '04

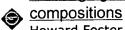
Publisher: Australian Computer Society, Inc.

Full text available: pdf(140.52 KB) Additional Information: full citation, abstract, references

The development of new web services by composition of existing services is becoming an extensive approach. This has resulted in transactions that span in multiple web services. These business transactions may be unpredictable and long in duration. Thus they may not be acceptable to lock resources exclusively for such long period. Two-phase commit is also not suitable for transactions with some long sub-transactions. Compensation is a way to ensure transaction reliability. However, rolling back a ...

**Keywords**: Web service transaction management, Web services composition, compensation, negotiation, tentative hold

14 Leveraging Eclipse for integrated model-based engineering of web service



Howard Foster, Sebastian Uchitel, Jeff Magee, Jeff Kramer

October 2005 Proceedings of the 2005 OOPSLA workshop on Eclipse technology eXchange eclipse '05

Publisher: ACM Press

Full text available: pdf(327.58 KB) Additional Information: full citation, abstract, references, index terms

In this paper we detail the design and implementation of an Eclipse plug-in for an integrated, model-based approach, to the engineering of web service compositions. The plug-in allows a designer to specify a service's obligations for coordinated web service compositions in the form of Message Sequence Charts (MSCs) and then generate policies in the form of WS-CDL and services in the form of BPEL4WS. The approach uses finite state machine representations of web service compositions and service ch ...

**Keywords**: Eclipse plug-in, implementation, model checking, service design, standards, validation, verification, web service choreography, web service composition and orchestration

15 Session 3: Verifying web services composition based on hierarchical colored petri



YanPing Yang, QingPing Tan, Yong Xiao

November 2005 Proceedings of the first international workshop on Interoperability of heterogeneous information systems IHIS '05

Publisher: ACM Press

Full text available: pdf(363.52 KB) Additional Information: full citation, abstract, references, index terms

Current Web services composition proposals, such as BPML, BPEL, WSCI, and OWL-S, provide notations for describing the control and data flows in Web service collaborations. However, such proposals remain at the descriptive level, without providing any kind of mechanisms or tool support for verifying the composition specified in the proposed notations. In this paper, we present to verify Web services composition by using CP-nets. CP-nets combine the strengths of Petri nets with the expressive powe ...

Keywords: CP-net, composition, transformation, verification, web service

16 Overview of some patterns for architecting and managing composite web services



B. Benatallah, M. Dumas, M.-C. Fauvet, F. A. Rabhi, Quan Z. Sheng June 2002 ACM SIGecom Exchanges, Volume 3 Issue 3

Publisher: ACM Press

Additional Information: full citation, abstract, references, citings, index Full text available: pdf(126.49 KB) terms

The composition of Web services has gained a considerable momentum as a paradigm for enabling Business-to-Business (B2B) Collaborations. Numerous technologies supporting this new paradigm are rapidly emerging, thereby creating a need for methodologies that bring these technologies together. The identification and documentation of relevant patterns, both at the analysis and design levels, is an important step in this direction.

**Keywords**: B2B e-commerce, design patterns, web services

17 Composition and evaluation of trustworthy Web Services

Stephen J. H. Yang, James S. F. Hsieh, Blue C. W. Lan, Jen-Yao Chung

March 2005 Proceedings of the IEEE EEE05 international workshop on Business services networks BSN '05

Publisher: IEEE Press

Full text available: pdf(294.91 KB) Additional Information: full citation, abstract, references

Service Oriented Architecture (SOA) is an architectural style that could seamlessly integrate existing software to fulfill dynamic requests in a platform-independent way but the loosely coupled and distributed characteristics of SOA will incur the trustworthiness problem in service composition. In this paper, we utilized the statistical techniques and Petri nets to propose an evaluation method for trustworthy service compositions. The trustworthiness of involved Web Services will be evaluated by ...

Keywords: SOA, composite web service, petri nets, statistics, trust, trustworthy web service

Web engineering: Conversation specification: a new approach to design and analysis





of e-service composition

Tevfik Bultan, Xiang Fu, Richard Hull, Jianwen Su

May 2003 Proceedings of the 12th international conference on World Wide Web

Publisher: ACM Press

Full text available: pdf(172.57 KB)

Additional Information: full citation, abstract, references, citings, index

This paper introduces a framework for modeling and specifying the global behavior of eservice compositions. Under this framework, peers (individual e-services) communicate through asynchronous messages and each peer maintains a queue for incoming messages. A global "watcher" keeps track of messages as they occur. We propose and study a central notion of a "conversation", which is a sequence of (classes of) messages observed by the watcher. We consider the case where the peers are represented by ...

Keywords: communicating finite sate automata, conversation specification, e-service composition

19 Posters: Compositional knowledge management for medical services on semantic



Yugyung Lee, Chintan Patel, Soon Ae Chun, James Geller

May 2004 Proceedings of the 13th international World Wide Web conference on Alternate track papers & posters

Publisher: ACM Press

Full text available: pdf(81.56 KB) Additional Information: full citation, abstract, references, index terms

The vision of the Semantic Web is to reduce manual discovery and usage of Web resources (documents and services) and to allow software agents to automatically identify these Web resources, integrate them and execute them for achieving the intended goals of the user. Such a composed Web service may be represented as a workflow, called service flow. Current Web service standards are not sufficient for automatic composition. This paper presents different types of compositional knowledge required fo ...

Keywords: pragmatic knowledge, service composition

## 20 Decentralizing execution of composite web services



Mangala Gowri Nanda, Satish Chandra, Vivek Sarkar

October 2004 ACM SIGPLAN Notices, Proceedings of the 19th annual ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications OOPSLA '04, Volume 39 Issue 10

Publisher: ACM Press

Full text available: pdf(429.43 KB) Additional Information: full citation, abstract, references, index terms

Distributed enterprise applications today are increasingly being built from services available over the web. A unit of functionality in this framework is a web service, a software application that exposes a set of "typed" connections that can be accessed over the web using standard protocols. These units can then be composed into a <i>composite</i> web service. BPEL (Business Process Execution Language) is a highlevel distributed programming language for creating composite web servi ...

Keywords: business process, program dependence graph, work flow

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You can also enter a full question or concept in plain language.

Where are the sales offices?

 Capitalize <u>proper nouns</u> to search for specific people, places, or products.

John Colter, Netscape Navigator

• Enclose a phrase in double quotes to search for that exact phrase.

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Narrow your searches by using a + if a search term <u>must appear</u> on a page.

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• Exclude pages by using a - if a search term must not appear on a page.

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Combine these techniques to create a specific search query. The better your description of the information you want, the more relevant your results will be.

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